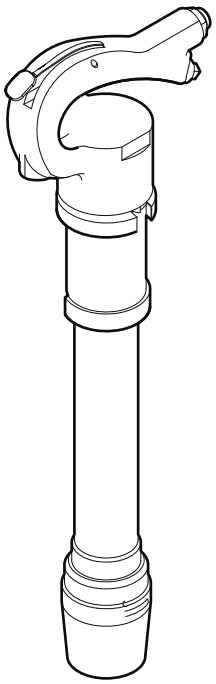
Safety and operating instructions

Handheld pneumatic rivet busters

CP 4608 P, CP 4611 P, CP 4608 D, CP 4611 D



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Chicago Pneumatic Construction Tools

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Contents

Introduction

Thank you for choosing Chicago Pneumatic as supplier for tools and services.

Chicago Pneumatic is a global company offering a wide range of pneumatic and hydraulic tools that includes breakers, rock drills, chipping hammers, clay-diggers, picks and busters, scabblers, pumps and whole lot more.

In 2001 Chicago Pneumatic Tool Company celebrated 100 years as a pioneer and market-leader in the pneumatic tool industry. Chicago Pneumatic has always focused on providing powerful and reliable products that are easy to maintain and that give good value for money. It's a philosophy that has made us market-leaders for air tools in the USA.

Read more at www.cp.com

About the Safety and operating instructions

The aim of the instructions is to provide you with knowledge of how to use the rivet buster in an efficient, safe way. The instructions also give you advice and tell you how to perform regular maintenance on the rivet buster.

Before using the rivet buster for the first time you must read these instructions carefully and understand all of them.

Safety instructions

To reduce risk of serious injury or death to yourself or others, read these safety instructions before operating the machine.

Post these safety instructions at work locations, provide copies to employees, and make sure that everyone reads the safety instructions before operating or servicing the machine.

Comply with all safety regulations.

Safety signal words

The safety signal words Danger, Warning and Caution have the following meanings:

DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Personal precautions and qualifications

Only qualified and trained persons may operate or maintain the machine. Always use your common sense and good judgement.

Personal protective equipment

Always use approved protective equipment. Operators and all other persons in the working area must wear protective equipment, including at a minimum:

- Protective helmet
- Hearing protection
- Impact resistant eye protection with side protection
- Respiratory protection when appropriate
- Protective gloves
- Proper protective boots

Drugs, alcohol or medication

⚠ WARNING Drugs, alcohol or medication

Drugs, alcohol or medication may impair your judgment and powers of concentration. Poor reactions and incorrect assessments can lead to severe accidents or death.

- Never use the machine when you are tired or under the influence of drugs, alcohol or medication.
- No person who is under the influence of drugs, alcohol or medication may operate the machine.

Installation, precautions

⚠ DANGER Whipping air hose

A compressed air hose that comes loose can lash around and cause personal injury or death.

- Check that the compressed air hose and the connections are not damaged.
- Check that all compressed air connections are properly attached.
- Never attempt to disconnect a compressed air hose that is pressurized. First switch off the compressed air at the compressor and then bleed the machine by activating the start and stop device.
- Never point a compressed air hose at yourself or anyone else. To avoid the risk of getting injured, never use compressed air to blow e.g. dust, dirt etc. from your clothes.

⚠ WARNING Ejected insertion tool

If the tool retainer on the machine is not in a locked position, the inserted tool can be ejected with force, which can cause personal injury.

- Never start the machine while changing the insertion tool.
- Before changing the insertion tool, stop the machine, switch off the compressed air supply and bleed the machine by activating the start and stop device.
- Never point the inserted tool at yourself or anyone else.
- Make sure that the insertion tool is fully inserted and the tool retainer is in a locked position before the machine is started.
- Check the lock function by pulling the inserted tool outwards forcefully.

⚠ WARNING Moving / Slipping insertion tool

An incorrect dimension of the inserted tool's shank can result in that the inserted tool is lost or is slipping out during operation. Risk of severe injury or crushed hands and fingers.

- Check that the insertion tool has the shank length and dimensions that the machine is intended for.
- Never use an insertion tool without a collar.

Operation, precautions

⚠ DANGER Explosion hazard

If an insertion tool comes into contact with explosives or explosive gases, an explosion could occur. During operating with certain materials, sparks and ignition can occur. Explosions will lead to severe injuries or death.

- Never operate the machine in any explosive environment.
- Never use the machine near flammable materials, fumes or dust.
- Make sure that there are no undetected sources of gas or explosives.

⚠ WARNING Unexpected movements

The inserted tool is exposed to heavy strains when the machine is used. The inserted tool may break due to fatigue after a certain amount of use. If the inserted tool breaks or gets stuck, there may be sudden and unexpected movement that can cause injuries. Futhermore, losing your balance or slipping may cause injury.

- Make sure that you always keep a stable position with your feet as far apart as your shoulder width, and keeping a balanced body weight.
- Always inspect the equipment prior to use. Never use the equipment if you suspect that it is damaged.
- Make sure that the handles are clean and free of grease and oil.
- Keep your feet away from the inserted tool.
- Stand firmly and always hold on to the machine with both hands.
- Never start the machine when it is lying on the ground.
- Never 'ride' on the machine with one leg over the handle.
- Never strike or abuse the equipment.
- Check regularly for wear on the insertion tool, and check whether there are any signs of damage or visible cracks.
- Pay attention and look at what you are doing.

⚠ WARNING Silica hazard

Exposure to crystalline silica (sometimes called 'silica dust') as a result of breaking, drilling, hammering, or other activities involving rock, concrete, asphalt or other materials may cause silicosis (a serious lung disease), silicosis-related illnesses, cancer, or death. Silica is a major component of rock, sand and mineral ores. To reduce silica exposure:

- Use proper engineering controls to reduce the amount of silica in the air and the build-up of dust on equipment and surfaces. Examples of such controls include: exhaust ventilation and dust collection systems, water sprays, and wet drilling. Make sure that controls are properly installed and maintained.
- Wear, maintain, and correctly use approved particulate respirators when engineering controls alone are not adequate to reduce exposure below permissible levels.
- Participate in air monitoring, medical exams, and training programs offered by your employer and when required by law.
- Wear washable or disposable protective clothes at the worksite; shower and change into clean clothes before leaving the worksite to reduce exposure of silica to yourself, other persons, cars, homes, and other areas.
- Never eat, drink, or use tobacco products in areas where there is dust containing crystalline silica.
- Wash your hands and face before eating, drinking, or using tobacco products outside of the exposure area.
- Work with your employer to reduce silica exposure at your worksite.

⚠ WARNING Dust hazard

Some dusts, fumes or other airborne material created during use of the machine may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Some examples of such chemicals are:

- Crystalline silica, cement and other masonry products.
- Arsenic and chromium from chemically-treated rubber.
- Lead from lead-based paints.

► To reduce your exposure to these chemicals, work in a well ventilated area and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

⚠ WARNING Projectiles

During operating, splinters or other particles from the working material may become projectiles and cause personal injury by striking the operator or other persons.

► Use approved personal protective equipment, including impact resistant eye protection with side protection.

► Make sure that no unauthorised persons trespass into the working zone.

► Keep the workplace free from foreign objects.

⚠ WARNING Vibration hazards

Normal and proper use of the machine exposes the operator to vibration. Regular and frequent exposure to vibration may cause, contribute to, or aggravate injury or disorders to the operator's fingers, hands, wrists, arms, shoulders and/or other body parts, including debilitating and/or permanent injuries or disorders that may develop gradually over periods of weeks, months, or years. Such injury or disorder may include damage to the blood circulatory system, damage to the nervous system, damage to joints, and possibly damage to other body structures.

If numbness, tingling, pain, clumsiness, weakened grip, whitening of the skin, or other symptoms occur at any time, when operating the machine or when not operating the machine, do not resume operating the machine and seek medical attention. Continued use of the machine after the occurrence of any such symptom may increase the risk of symptoms becoming more severe and/or permanent.

The following may help to reduce exposure to vibration for the operator:

► Let the tool do the job. Use a minimum hand grip consistent with proper control and safe operation.

► When the percussion mechanism is activated, the only body contact with the machine you should have are your hands on the handle/handles. Avoid any other contact, e.g. supporting any part of the body against the machine or leaning onto the machine trying to increase the feed force. It is also important not to keep the start and stop device engaged while extracting the tool from the broken work surface.

► Make sure that the inserted tool is well-maintained (including sharpness, if a cutting tool), not worn out, and of the proper size. Insertion tools that are not well-maintained, or that are worn out, or that are not of the proper size result in longer time to complete a task (and a longer period of exposure to vibration) and may result in or contribute to higher levels of vibration exposure.

► Immediately stop working if the machine suddenly starts to vibrate strongly. Before resuming the work, find and remove the cause of the increased vibrations.

► Never grab, hold or touch the inserted tool when using the machine.

► Participate in health surveillance or monitoring, medical exams and training programs offered by your employer and when required by law.

See the "Noise & Vibration Declaration Statement" for the machine, including the declared vibration values and "Additional Vibration Information". This information can be found at the end of these safety and operation instructions.

- Comply with the recommended air-pressure when operating the machine. Either higher or lower air-pressure has the potential of resulting in higher levels of vibration.

⚠ DANGER Electrical hazard

The machine is not electrically insulated. If the machine comes into contact with electricity, serious injuries or death may result.

- Never operate the machine near any electric wire or other source of electricity.
- Make sure that there are no concealed wires or other sources of electricity in the working area.

⚠ WARNING Concealed object hazard

During operating, concealed wires and pipes constitute a danger that can result in serious injury.

- Check the composition of the material before operating.
- Watch out for concealed cables and pipes e.g. electricity, telephone, water, gas and sewage lines etc.
- If the inserted tool seems to have hit a concealed object, switch off the machine immediately.
- Make sure that there is no danger berfore continuing.

⚠ WARNING Involuntary start

Involuntary start of the machine may cause injury.

- Keep your hands away from the start and stop device until you are ready to start the machine.
- Learn how the machine is switched off in the event of an emergency.
- Release the start and stop device immediately in all cases of power supply interruption.
- Whenever fitting/removing the insertion tool switch off the air supply and disconnect the machine from the power source. Bleed the machine by pressing the start/stop device.

⚠ WARNING Noise hazard

High sound levels may cause permanent hearing loss.

- Use hearing protection in accordance with occupational health and safety regulations.

Storage, precautions

- Keep the machine and tools in a safe place, out of the reach of children and locked up.

Maintenance, precautions

⚠ WARNING Machine modification

Any machine modification may result in bodiliy injuries to yourself or others.

- Never modify the machine.
- Always use original parts and accessories approved by Chicago Pneumatic.
- Change damaged parts immediately.
- Replace worn components in good time.

⚠ CAUTION Hot insertion tool

The tip of the insertion tool becomes hot when used. Touching it can lead to burns.

- Never touch a hot insertion tool.
- Wait until the insertion tool has cooled down before carrying out maintenance work.

Overview

To reduce the risk of serious injury or death to yourself or others, read the Safety instructions section found on the previous pages of this manual before operating the machine.

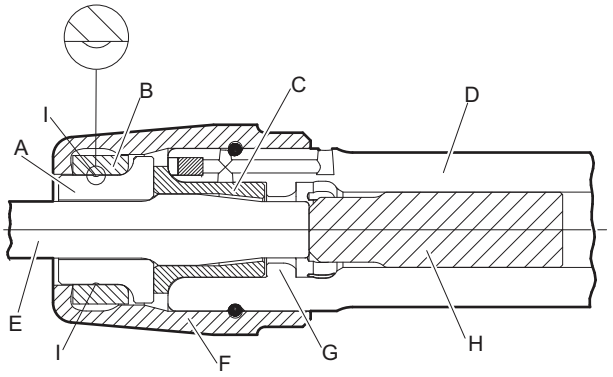
Design and function

The CP 4608 and CP 4611 are designed for medium to heavy concrete demolition, cutting rivets and bolts, and other cutting and ripping operations. No other use is permitted. The machine can be used both horizontally and vertically.

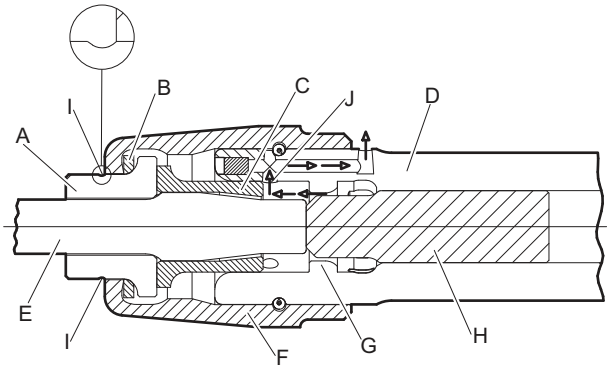
CPS

As part of the controlled power system (CPS), the CP 4608 and CP 4611 monitor the wear of the bumper and automatically stop the impact when the bumper is worn out.

Intact bumper



Worn out bumper



A. Lower sleeve

B. Bumper

C. Upper sleeve

D. Cylinder

E. Insertion tool

F. Retainer

G. Bridge

H. Piston

I. Wear indicating groove

J. Bleeding ports

Function

When the buster is exposed to back hammering the impact energy is absorbed by the bumper. Due to the impact energy the bumper wears away and causes the upper sleeve and the lower sleeve to move outwards. At a certain degree of wear of the bumper, the bleeding ports (J) are opened due to the outward movement of the upper and lower sleeves, causing the piston to stop in its lower position. This automatic breaker stop function works only when the buster is exposed to back hammering. If the insertion tool is pressed firmly against the surface the buster will start again.

Replacement of the bumper

As soon as the buster is starting to run irregularly or stops when exposed to back hammering, the bumper has to be replaced. Continuing to use the buster when the automatic stop function is effective will cause damage to the retainer and cylinder. The wear indicating groove (I) on the lower sleeve indicates that the bumper is completely worn out and that the use of the buster should be stopped and the bumper replaced.

Choosing the correct pneumatic hammer for a task

It is important to choose the correct size of pneumatic hammer for the work to be performed.

A pneumatic hammer that is too small means that the work will take longer.

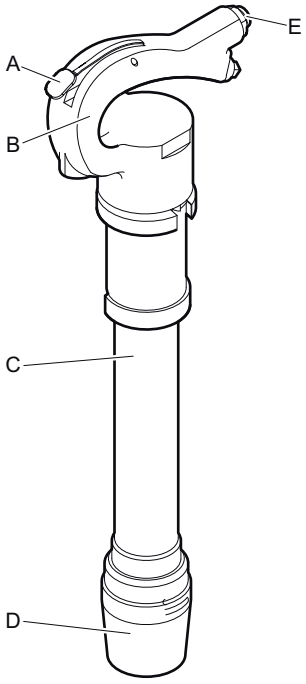
A hammer that is too big means that there must be frequent repositioning, which is unnecessarily tiring for the operator.

A simple rule for choosing the correct size of pneumatic hammer is that a normal sized piece of broken material should be removed from the workpiece within 5–10 seconds operation.

> If it takes less than 5 seconds a smaller pneumatic hammer should be selected.

> If it takes more than 10 seconds a larger pneumatic hammer should be selected.

Main parts



A. Start and stop device (trigger)

B. Handle

C. Cylinder

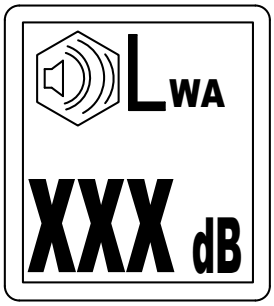
D. Tool retainer

E. Air inlet

Signs and stickers

The machine is fitted with signs and stickers containing important information about personal safety and machine maintenance. The signs and stickers shall always be easy to read. New signs and stickers can be ordered by using the spare parts list.

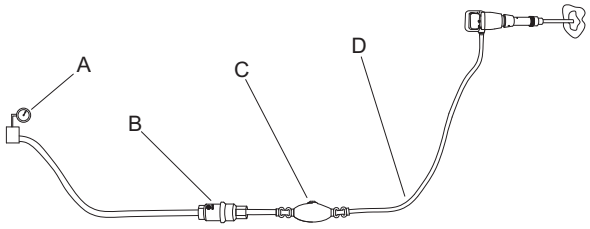
Noise level sign



The decal indicates the guaranteed noise level indicator corresponding to EC-directive 2000/14/EC. See "Technical data" for accurate sound level.

Installation

Hoses and connections



A. Compressed air source

B. Water separator (optional)

C. Lubricator (optional)

D. NOTE! Max. 10 feet (3 meter) compressed air hose between the lubricator and the machine.

- Check that you are using the correct recommended operating pressure, 87 psig (6 bar (e)).
- The maximum permissible air pressure, 90 psig (6.2 bar (e)), must not be exceeded.
- Blow any impurities out of the compressed air hose before connecting it to the machine.
- Select the correct dimension and length for the compressed air hose. For hose lengths up to 100 feet (30 meters), a hose with a minimum internal diameter of 3/4" (19 mm) should be used. If the hose length is between 100 and 330 feet (30 and 100 meters), a hose with a minimum internal diameter of 1" (25 mm) should be used.

Connecting a water separator

The length of the air hose between the compressor and the water separator must be such that the water vapor is cooled and condenses in the hose before reaching the water separator.

If the ambient temperature is below 32 °F (0 °C) the hose must be short enough to prevent the water from freezing before reaching the water separator.

Lubrication

The lubricant is important for the machine's function and has a great impact on the service life. In order to supply the correct volume of oil, an oiler should be connected to the air hose. The use of Chicago Pneumatic air line oiler is recommended. To guarantee good lubrication, the length of the air hose between the oiler and the pneumatic tool should not exceed 10 feet (3 m).

Too much lubrication can cause starting problems, low power or uneven performance.

Recommended Lubricant: Air tool oil with a viscosity of 100-150 SUS at 100°F (ISO VG 22–32).

It is recomended that the oil contains a rust-inhibitor.

Insertion tool

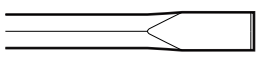
Selecting the right insertion tool

Selecting the right insertion tool is a precondition for proper machine function. It is important to select insertion tools of high quality to avoid unnecessary machine damage.

The machine can be destroyed if you use an incorrect insertion tool.

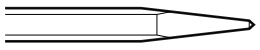
Recommended insertion tools are listed in the machine's spare parts list.

Narrow chisel



The narrow chisel is used for demolition and cutting work in concrete and other types of hard materials.

Moil point

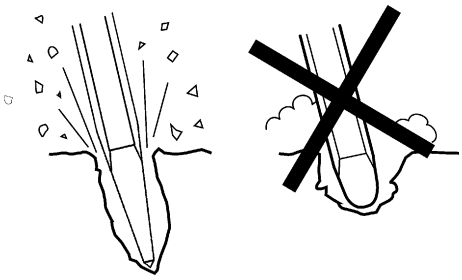


The moil point is only used for making holes in concrete and other types of hard materials.

⚠ WARNING Vibration hazard

Using inserted tools that do not fulfil the criterias mentioned below, will result in a longer time to complete a task, and may result in higher levels of vibration exposure. A worn tool will also cause increased working time.

- Make sure that the inserted tool is well-maintained, not worn out and of proper size.
- Always use a sharp tool in order to work efficiently.

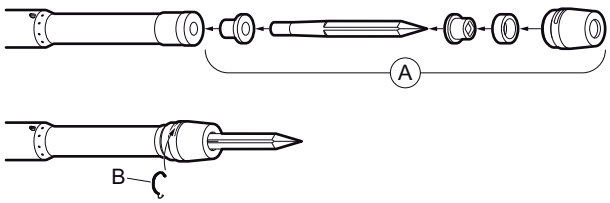


Fitting and removing the insertion tool

Whenever fitting/removing the insertion tool the following instructions must be observed:

1. To prevent an accidental start: switch off the air supply and bleed the machine by pressing the start/stop device. Disconnect the machine from the power source.
2. Before inserting a tool, lubricate the tool shank with grease.
3. Close the tool retainer and check the lock function by tugging the inserted tool sharply outwards.

CP 4608 and CP 4611

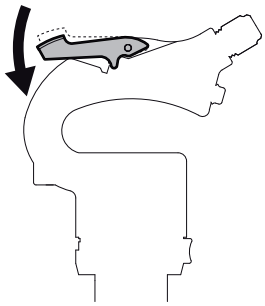


1. Assemble the parts as shown (A).
2. Insert the lock coil (B) into the tool retainer.

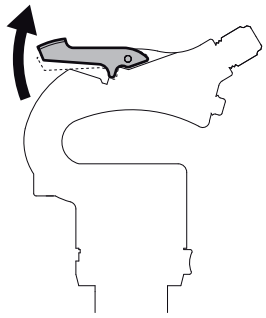
Operation

Start and stop

CP 4608 P, CP 4611 P

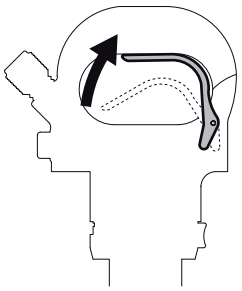


Start the machine by sqeezing the trigger while firmly holding the handle.

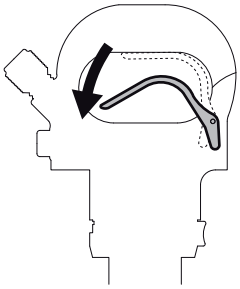


Stop the machine by releasing the trigger. The trigger returns automatically to the stop position.

CP 4608 D, CP 4611 D



Start the machine by sqeezing the trigger while firmly holding the handle.

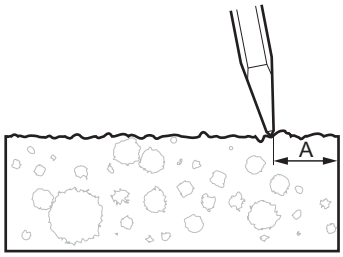


Stop the machine by releasing the trigger. The trigger returns automatically to the stop position.

Operating

Starting a cut

- Stand in a stable position with your feet well away from the inserted tool.
- Press the machine against the working surface before you start.
- The working speed of the machine is controlled via the trigger.
- Start collaring at such a distance from the edge that the machine is capable of breaking the material without leverage.
- Never break off too large pieces. Adjust the breaking distance (A) so that the inserted tool does not get stuck.



Breaking

- Let the machine do the work; do not press too hard.
- Avoid working in extremely hard materials e.g. granite and reinforcing iron (re-bar) which would cause substantial vibrations.
- Any form of idling, operating without insertion tool or operating with an uplifted machine must be avoided.
- When the machine is lifted, the start and stop device must not be activated.

- Check regularly that the machine is well lubricated.

When taking a break

- During all breaks you must place the machine in such a way that there is no risk for it to be unintentionally started.
- In the event of a longer break or when leaving the workplace: Switch off the compressed air supply and then bleed the machine by activating the start and stop device.

Maintenance

Regular maintenance is a basic requirement for the continued safe and efficient use of the machine. Follow the operating instructions carefully.

- Use only authorised parts. Any damage or malfunction caused by the use of unauthorised parts is not covered by Warranty or Product Liability.
- When cleaning mechanical parts with solvent, comply with appropriate health and safety regulations and ensure there is satisfactory ventilation.
- For major service to the machine, contact your nearest authorised workshop.

Every day

Before undertaking any maintenance or changing the insertion tool on pneumatic machines, always switch off the air supply and bleed the machine by depressing the start and stop device then disconnect the air hose from the machine.

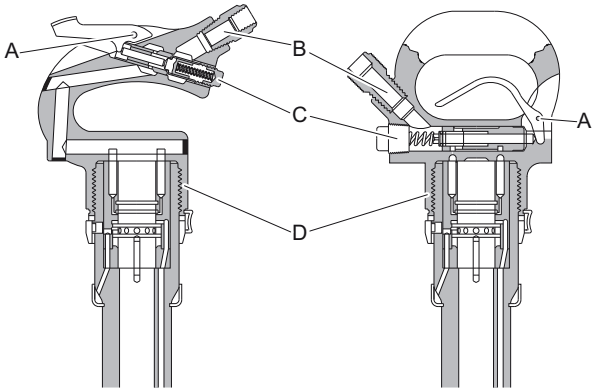
- Clean and inspect the machine every day.
- Check the tool retainer for wear and function.
- Conduct a general inspection for leaks and damage.
- Check that the air inlet nipple is tightened and that the claw coupling is free from damage.
- For the machine to maintain the specified vibration values, always check the following:

  Too big a clearance between the insertion tool's shank and the chisel bushing will generate increased vibrations. To avoid getting exposed to excessive vibrations, check the chisel bushing for wear every day.
- Change damaged parts immediately.
- Replace damaged and worn components in good time.
- Make sure that all the attached and related equipment, such as hoses, water separators and oilers are properly maintained.

Periodic maintenance

After each operating period of approximately 150 impact hours or twice a year the machine must be dismantled and all parts be cleaned and checked. This work must be performed by authorised staff, trained for this task.

Assembly instructions



A. Peen the hole in both ends after inserting the pin.

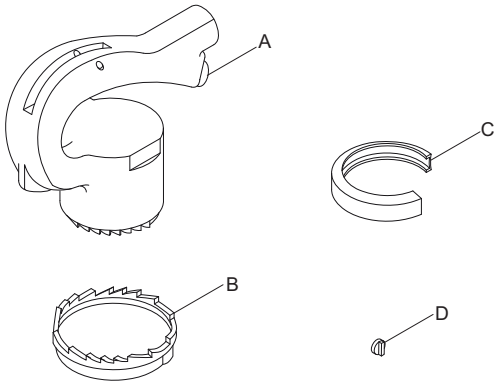
B. Torque: 40-60 lbf.ft (54-81 Nm), use Loctite® 243™ (Loctite 243 are registered trademarks of Henkel KGaA, its subsidiaries, affiliates, or licensors.)

C. Torque: 35-40 lbf.ft (48-54 Nm), use Loctite® 243™

D. Torque: 370-400 lbf.ft (502-543 Nm)

Instruction for assembling the lock collar and clip

1) Apply a torque of 370 lbf.ft (502 Nm) to the handle.



A. Handle

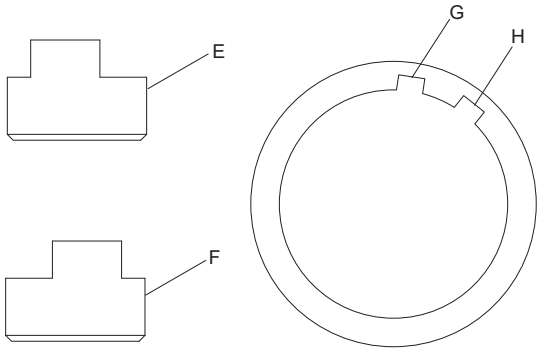
B. Lock collar

C. Clip

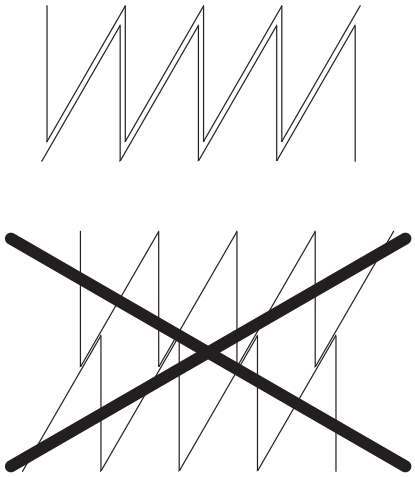
D. Key

2) Fit the Key.

3) Assemble the lock collar with the handle. There are four possible assembly combinations. Two different positions of the key (E and F) and two grooves in the lock collar (G and H).

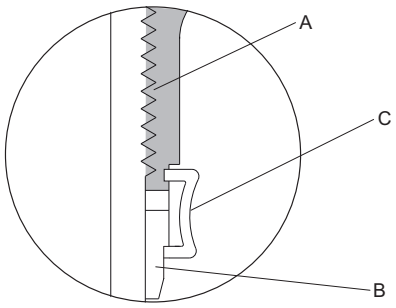


4) Using the four possible assembly combinations, make an alignment of the teeth according to picture below.



5) If it is not possible to get a correct alignment of the teeth using the four combinations apply more torque to the handle. Never exceed the maximum torque that is 400 lbf.ft (543 Nm).

6) When the teeth align correctly, fit the clip. Check carefully that the clip is fitted according to the picture below.



Troubleshooting

If the pneumatic breaker does not start, has low power or uneven performance, check the following points.

- Check that the insertion tool being used has the correct shank dimension.
- Check that the pneumatic breaker is getting the correct amount of lubricant. Too much lubrication can cause starting problems, low power or uneven performance.
- Check that the compressed air system supplies the machine with sufficient air pressure to give full power.

- Check the dimension and length of the air hose are according to the recommendations. See “Installation”.
- If there is a risk of freezing, check that the machine's exhaust ports are not blocked.
- If the machine function is still not satisfactory after this procedure, contact an authorised service workshop.

Storage

> Clean the machine properly before storage.
> Pour approx. 1/2 oz (5 cl) of oil directly into the air inlet nipple, connect the machine to the compressed air supply and start it for a few seconds.
> Always store the machine in a dry place.

Disposal

A used machine must be treated and disposed of in such a way that the greatest possible portion of the material can be recycled and any negative influence on the environment is kept as low as possible.

Technical data

Machine data

Model	Shank dimension in. (mm)	Part number	Weight lb (kg)	Length in. (mm)	Impact freq. (Hz)	Air Consumption foot ^{3}/min (l/s)
CP 4608 P	Taper 0.890"x1.125" (23x29)	8900 0001 49	30 (13.7)	23" (584)	15	45 (21)
CP 4611 P	Taper 0.890"x1.125" (23x29)	8900 0001 50	33 (15)	26" (660)	12	45 (21)
CP 4608 D	Taper 0.890"x1.125" (23x29)	8900 0001 51	31 (14.1)	23 ¾" (600)	15	45 (21)
CP 4611 D	Taper 0.890"x1.125" (23x29)	8900 0001 52	34 (15.4)	26 ¾" (676)	12	45 (21)

Noise and vibration declaration statement

Guaranteed sound effect level **Lw** according to ISO 3744 in accordance with directive 2000/14/EC.

Sound pressure level **Lp** according to ISO 11203.

Vibration value **A** and uncertainty **B** according to EN 12096. Values determined according to ISO 8662-5. See table ”Noise and vibration data” for the values of A, B, etc.

These declared values were obtained by laboratory type testing in accordance with the stated directive or standards and are suitable for comparison with the declared values of other tools tested in accordance with the same directive or standards. These declared values are not adequate for use in risk assessments and values measured in individual work places may be higher. The actual exposure values and risk of harm experienced by an individual user are unique and depend upon the way the user works, in what material the breaker is used, as well as upon the exposure time and the physical condition of the user, and the condition of the breaker.

We, Chicago Pneumatic, cannot be held liable for the consequences of using the declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation over which we have no control.

Additional Vibration Information

This tool may cause hand-arm vibration syndrome if its use is not adequately managed.

This additional vibration information may be of assistance to employers in meeting their obligations (for example under EU Directive 2002/44/EC) to assess the risks to their workers arising from hand arm vibration associated with the use of this tool.

The vibration emission varies greatly with task and operator technique. The declared vibration value relates to a single axis on the D-handle and much higher vibration levels may occur at other hand positions or measurement directions.

We recommend a programme of health surveillance to detect early symptoms that may relate to vibration exposure, so that management procedures can be modified to help prevent significant disability.

Noise and vibration data

	Noise		Single axis vibration values
	Declared Values		Declared
	ISO 11203	2000/14/EC	ISO 8662-5
Model	**Lp** r=1m dB(A) rel 20µPa	**Lw** guaranteed dB(A) rel 1pW	**A** m/s^2 value	**B** m/s^2 spreads
CP 4608 P	93	105	11	4
CP 4611 P	93	105	11	4
CP 4608 D	93	105	11	4
CP 4611 D	93	105	11	4

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Chicago Pneumatic Construction Tools